

Abstract

The present invention is directed to a process for treating, reducing, and/or stabilizing various wastes or flue gases. In one embodiment, the process is directed to treatment of alkali bearing wastes that include nitrate and/or nitrite-rich wastes. Optionally, the disclosed method can be utilized for treatment of hazardous wastes, including radioactive hazardous waste compounds. In general, the present invention includes processing a waste or gaseous stream with the addition of suitable carbon-containing additives to treat and reduce nitrogen-containing compounds in the waste. Additives may be gaseous, liquid or solid reduction-promoting agents, catalysts, and the like. The reaction products obtained from the process of the invention include mainly alkali carbonate, nitrogen, hydrogen, carbon monoxide and carbon dioxide.